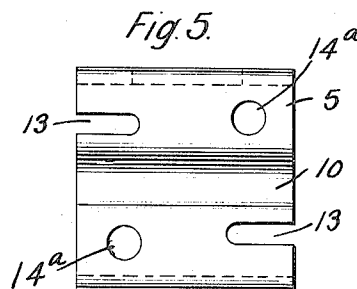
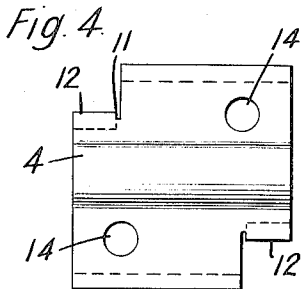
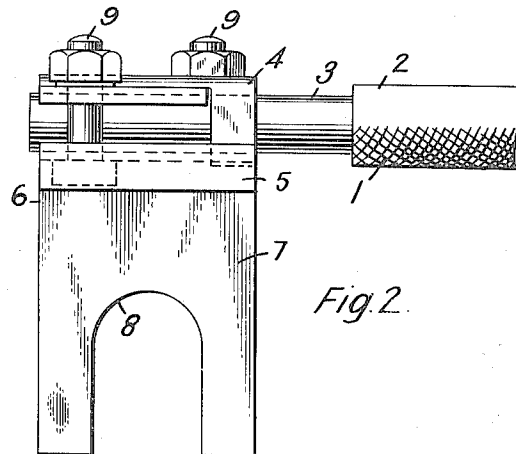
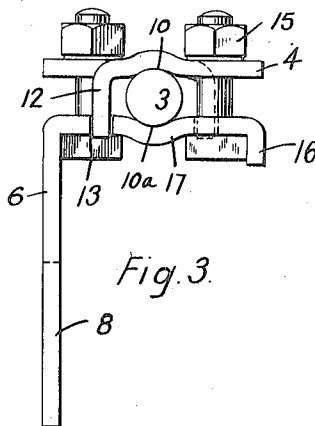
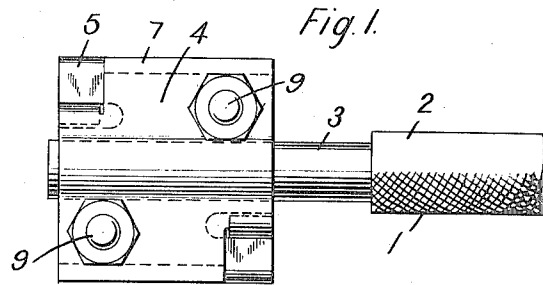


H. C. NAGEL.
CLAMP TYPE TERMINAL.
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1,248,528.

Patented Dec. 4, 1917.



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CLAMP-TYPE TERMINAL.

1,248,528.

Specification of Letters Patent.

Patented Dec. 4, 1917.

Application filed February 7, 1916. Serial No. 76,615.

To all whom it may concern:

Be it known that I, HARRY C. NAGEL, a citizen of the United States, and a resident of Wilksburg, in the county of Allegheny and State of Pennsylvania, have invented a new and useful Improvement in Clamp-Type Terminals, of which the following is a specification.

My invention relates to terminal devices for electric conductors and especially to clamp-type terminal devices that are adapted to rigidly hold the conductor ends and, at the same time, to be readily applied or disconnected from the associated conductors.

More particularly, my invention relates to terminal devices which are to be utilized for connecting conductors of relatively large size and of more or less flexibility to grid resistors, rheostats and the like.

One object of my invention, therefore, is to provide a clamp-type terminal device of the above indicated character which shall be simple and economical to construct and, at the same time, sufficiently rugged to withstand all mechanical shocks and strains to which it may be subjected in service.

Another object of my invention is to provide a clamp-type terminal of large current-carrying capacity which requires a few bolts only—or, more strictly speaking, two bolts—for rigidly holding the engaged conductor end and precluding sidewise movement thereof when mechanical forces imposed upon the conductor tend to displace it.

For a better understanding of the nature and scope of my invention, reference may be had to the following description and the accompanying drawing in which Figure 1 is a top view of a clamp-type terminal constructed in accordance with my invention; Figs. 2 and 3 are side and end views, respectively, of the assembled terminal device of Fig. 1; and Figs. 4 and 5 are top views, respectively, of the upper end plate or clamping plate, and of the lower plate or base plate of my terminal device.

Referring to the drawing, the conductor 1, having an insulating covering 2, is provided with a bare end-portion 3 which is clamped between an upper or clamping plate 4 and a lower or base plate 5 of a terminal device 6. The base plate 5 is provided with a downwardly-projecting portion 7 which is recessed at 8 to permit engagement with the usual binding post or bolt (not shown)

of a grid resistor and the like. The conductor 1 is usually of sufficiently large cross-sectional area to conduct relatively high currents and may be more or less flexible.

The terminal device 6 comprises the base plate 5 having the extending portion 7 integrally formed therewith, the upper clamping plate 4 and two diagonally disposed bolts 9 which engage the upper and lower plates, thereby providing means for rigidly holding the unprotected end 3 of the conductor.

The clamping plate 4 is formed from a polygonal or square-shaped metallic piece which is provided with a central groove 10 that is fashioned to receive and intimately engage the upper peripheral surface of the conductor 3. Two saw-cuts 11 are made in diagonally opposite corners of the blank and transversely of the groove 10, the two portions 12 so formed being bent downwardly at right angles to the plane of the upper end plate 4 so as to provide extensions at the two diagonally opposite corners. It will be noted, by referring to Figs. 3 and 5, that the downwardly-extending portions or ears 12 are of sufficient length to be received in correspondingly disposed slots or recesses 13 formed in the base plate 5. At the other two diagonally opposite corners of the upper plate 4, holes 14 are formed to receive shank portions 15 of the bolts 9 and, likewise, corresponding holes 14^a are provided in the base-plate 5 to cooperate therewith. A channel or groove 10^a, corresponding to the groove 10 of the upper plate 4, is formed in the lower base plate 5 to engage the lower peripheral surface of the conductor 3.

To assemble the terminal device, the plate 4 is applied in such manner that the channel 10 engages the upper peripheral surface of the conductor 3, whereby the ears 12 may be received in the slots 13 and the holes 14 may be positioned directly above the holes 14^a. The bolts 9 are then inserted in the holes 14 and 14^a and nuts 15 are applied thereto for firmly clamping the conductor between the plates 4 and 5.

It will be noted from the foregoing description that two bolts 9 only are employed which are disposed at diagonally opposite corners of the clamping device, and that the ears 12 formed at the other two diagonally opposite corners are received in the diagonally opposite recesses 13 of the base plate 5. The two plates are firmly clamped

to each other by means of the two bolts 9, and the ears 12 of the clamp plate preclude sidewise movement of the conductor 1 because of their forced engagement with the slots 13 of the base plate.

To facilitate the clamping of the conductor end 3 between the two plates 4 and 5, the bolts 9 may be provided with polygonal heads which are fitted into the space extending between a downwardly and integrally formed flange-portion 16 and the expanded portion 17 resulting from the forming of the channel or groove 10^a in the base plate 5. This arrangement permits the nuts 15 to be removed with ease since the bolts 9 are securely held in a fixed position. In applying my clamp terminal to a resistor or any other apparatus, it may be convenient to rest the bolt heads 15 against the resistor elements so that the bolt 9 will be held in position when the nuts 15 thereof are removed.

While I have shown and described one embodiment of my invention, it will be understood that many modifications may be made without departing from the spirit and scope of the appended claims.

I claim as my invention:

1. A clamp-type terminal device for an electrical conductor comprising a base plate having an angularly-disposed projection thereon for clamping purposes and diagonally-disposed slots formed therein, an upper clamp plate having diagonally-disposed and downwardly-extending ears which are adapted to be received in said slots, and bolts extending through correspondingly positioned holes formed in both plates for clamping the conductor therebetween.

2. A clamp-type terminal device for an electrical conductor comprising a base plate having an integrally formed and downwardly-extending projection for clamping purposes and diagonally-disposed slots

formed therein, an upper clamping plate having diagonally-disposed and downwardly extending ears which are adapted to be received in said slots, and means for clamping the conductor between said plates.

3. A clamp-type terminal device for an electrical conductor comprising a base plate having an angularly-disposed projection thereon for clamping purposes and a centrally-disposed channel and two diagonally-disposed slots formed therein, an upper clamping plate having a corresponding channel formed therein and two downwardly-extending ears, and means for clamping the two plates to each other when the conductor is received in the channels of the upper and lower plates, whereby the ears of the upper clamping plate may project into the slots of the lower base plate.

4. A clamp-type terminal device for an electrical conductor comprising a base plate having an angularly-disposed projection thereon for clamping purposes and slots formed in diagonally opposite corners thereof, an upper clamping plate having two diagonally opposite corners thereof bent downwardly to form ears which may be received in said slots, and means for clamping the conductor between said plates when the ears of the upper plate project into the slots of the base plate.

5. A clamp-type terminal device for an electrical conductor comprising a base plate having a downwardly-extending projection for clamping purposes and openings therein, an upper clamping plate having inwardly-extending ears to correspond to the openings in the base plates and adapted to register therewith, and means for clamping a conductor between the plates.

In testimony whereof, I have hereunto subscribed my name this 29th day of Jan. 1916.

HARRY C. NAGEL.